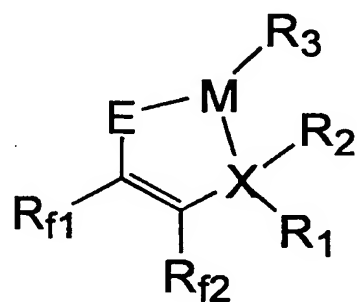


CLAIMS

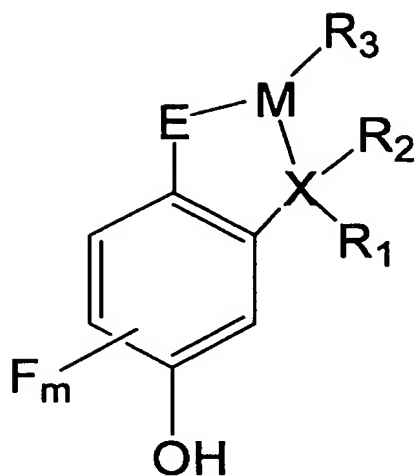
1. An olefin polymerization catalyst represented by general formula (1), (2), or (3):

[Chem. 1]



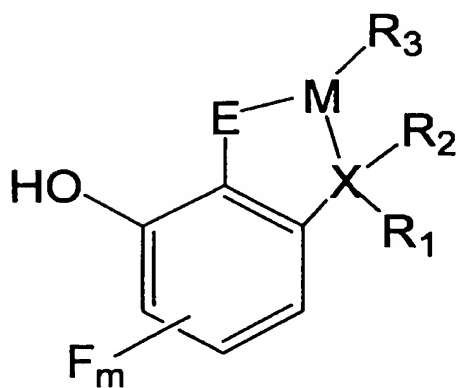
(1)

[Chem. 2]



(2)

[Chem. 3]



(3)

(wherein M is nickel, palladium, or platinum; E is oxygen or sulfur; X is phosphorus, arsenic, or antimony; R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> are each independently hydrogen or a hydrocarbon group

having 1 to 20 carbon atoms;  $R_{f1}$  and  $R_{f2}$  are each independently a fluorine atom or a fluorohydrocarbon group having 1 to 20 carbon atoms; F is fluorine; and m is 1 to 3).

2. The olefin polymerization catalyst according to claim 1, wherein M is nickel.

3. The olefin polymerization catalyst according to claim 1 or 2, wherein E is oxygen, and X is phosphorus.

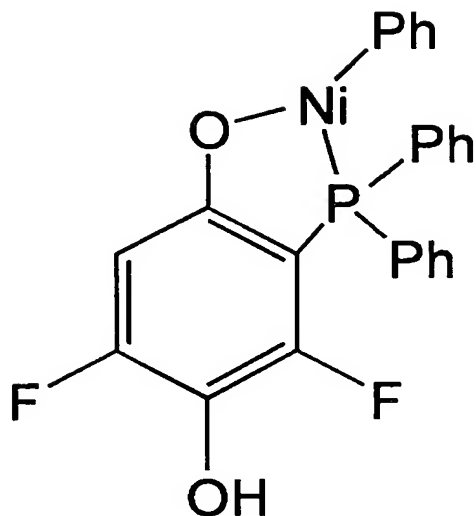
4. The olefin polymerization catalyst according to any one of claims 1 to 3, wherein  $R_{f1}$  and  $R_{f2}$  are each a fluorohydrocarbon group having 1 to 20 carbon atoms.

5. The olefin polymerization catalyst according to claim 4, wherein  $R_{f1}$  is a trifluoromethyl group, and  $R_{f2}$  is a pentafluorophenyl group.

6. The olefin polymerization catalyst according to any one of claims 1 to 5, wherein  $R_1$ ,  $R_2$ , and  $R_3$  are each a phenyl group.

7. The olefin polymerization catalyst according to claim 6, represented by general formula (4):

[Chem. 4]



(4)

(wherein Ph represents a phenyl group).

8. An olefin polymer prepared using the olefin polymerization catalyst according to any one of claims 1 to 7.

9. The olefin polymer according to claim 8, wherein an olefin monomer is an  $\alpha$ -olefin having 10 or less carbon atoms.

10. A method for producing the olefin polymerization catalyst according to any one of claims 1 to 7.

11. A method for producing the olefin polymer according to claim 8 or 9.